

MOROZOVA, Inna Aleksandrovna; FREYMUNDT, Ye.N., red.; GRYAZNOV, V.I.,  
red.; IL'YUSHENKOVA, T.P., tekhn.red.

[Balance of the national economy and methods for compiling it]  
Balans narodnogo khoziaistva i metody ego postroeniia. Moskva,  
Gosstatizdat TsSU SSSR, 1961. 143 p. (MIRA 15:2)  
(Russia--Economic conditions) (Russia--Statistics)

GRYAZNOV, V.I., red.; USTIYANTS, V.A., red.; TSIGEL'NIK, M.Ya.,  
red.; PRYTKOVA, R.N., tekhn. red.; IL'YUSHENKOVA, T.P.,  
tekhn. red.

[Problems in the mechanization of engineering and administrative  
work; proceedings] Voprosy mekhanizatsii inzhenernogo i upravlen-  
cheskogo truda; materialy. Moskva, Gosstatizdat, 1961. 575 p.  
(MIRA 15:4)

1. Vsesoyuznoye soveshchaniye po voprosam mekhanizatsii truda  
inzhenerno-tekhnicheskikh rabotnikov i rabotnikov administra-  
tivno-upravlencheskogo apparata, Moscow, 1960.

(Electronic calculating machines)

(Office equipment and supplies)

GRYAZNOV, V.I., kand.tekhn.nauk, dotsent

Air-cushion transportation machines. Sbor.trud.LIIZHT no.199:16-  
33 '62. (MIRA 16:2)  
(Railroad research) (Ground effect machines)

VORONIN, M.I., dotsent; GRYAZNOV, V.I., dotsent; KETLER, V.G., dotsent;  
PRASOV, L.Z., dotsent; VOZNESENSKIY, G.D., dotsent, kand.tekhn.nauk;  
ZHABOTINSKAYA, L.A., dotsent, kand.tekhn.nauk; ISAKOV, I.M., dotsent,  
kand.tekhn.nauk; LAZEBNIKOV, Yu.S., dotsent, kand.tekhn.nauk;  
PROTSENKO, A.I., assistant

Manual on the design of railroads. Transp. stroi. 14 no.6:53-59  
Ja '64.

Through the pages of foreign magazines. Ibid.:55-56

(MIRA 18:2)

1. Leningradskiy ordena Lenina institut inzhenerov zheleznodoro-  
zhnogo transporta imeni akademika V.N.Obruztsova (for Voronin,  
Gryaznov, Ketler, Prasov). 2. Novosibirskiy institut inzhenerov  
zheleznodorozhnogo transporta (for Voznesenskiy, Zhabotinskaya,  
Isakov, Lazebnikov, ProtSENKO).

GRYAZNOV, V. M.

GRIGOR'YEV, V.V.; GRYAZNOV, V.M.; SHCHETINING, A.I. kapitan dal'nego  
plavaniya, redaktor.

[Ship cordages; collection of plates] Sudovye takelashnye raboty;  
atlas. Pod red. A.I.Shchetininoi. Leningrad, Gos. izd-vo vodnogo  
transporta, Leningradskoe otd-nie, 1954. 131 p. (MIRA 7:7)  
(Masts and rigging) (Knots and splices)

GRIGOR'YEV, Vladimir Vasil'yevich; GRYAZNOV, Vasilii Mikhaylovich; SHCHETININA, Anna Ivanovna, kapitan dal'nego plavaniya, spets. red.; SANDLER, N.V., red. izd-va; KOTLYAKOVA, O.I., tekhn. red.

[Ship cordages; an atlas] Sudovye takelazhnye raboty; atlas. Izd. 2., perer., 1 dop. Pod red. A.I. Shchetininoi. Leningrad, Izd-vo "Morskoi transport," 1957. 195 p.

(MIRA 11:7)

(Knots and splices)

ADAMEK, Ye.; YAGODOVSKIY, V.D.; GRYAZNOV, V.M.

Adsorption of crypton on thermally treated platinum films. Kin. i kat.  
6 no. 32486-492 My. Je '65. (MIRA 18:10)

1. Universitet druzhby narodov imeni Lunumbu Moskva i Karlov  
universitet, Praga, Chekhoslovatskaya Sotsialisticheskaya  
Respublika.

PROCESS AND PROPERTY INDEX

K

F

320. NATURE OF ACTIVE CENTRES OF ALUMINOSILICATE CATALYSTS.  
 GRYABOV, V. M., Korobov, V.V. and Frost, A. V. (Compt. Rend. Dokl. Akad. Nauk SSSR, 1945, 48, 339, 342; U.S.P. Surv. For. Petrol. Lit. Trans. No. 576.) A study has been made of a number of catalysts for the enrichment of benzene and the cracking of gas oil. These catalysts were prepared by impregnating pure silica gel with acidified aqueous  $Al_2(SO_4)_3$  solutions of various concns. For 2 samples of catalysts, differing widely in activity it has been shown that the disproportioning of  $H_2$  proceeds as a reaction of the first order; hence, a method has been found of estg. the activity of a catalyst for the enrichment of benzene. Application of Kobozev's theory for the interpretation of the relation between the activity of the catalyst and its Al content shows that the activity centers are groups of 2 Al atoms each. Analysis of the activity of these same catalysts in cracking confirms these results.  
 U.S.S.R.

ASB-SLA METALLURGICAL LITERATURE CLASSIFICATION

GROUP	CLASS	SUBCLASS	SECTION	SERIAL	DATE	AUTHOR	TITLE	ABSTRACT	NOTES
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100



GRYAZNOV, V. M.

Gryaznov, V. M., Korobov, V.V. and Frost, A.V. "An estimate of the thermodynamic values of ketene and the equilibrium of its formation," Vestnik Mosk. un-ta, 1948, No. 9, p. 51-56 - Bibliog: '8 items

SO: U-2888, Letopis Zhurnal'nykh Statey, No. 1, 1949

**C A**

**X-ray investigation of palladium catalysts on silica gel.**  
V. M. Gerasimov, Yu. P. Simanov, L. K. Usova, and  
A. V. Frost. *Doklady Akad. Nauk S.S.S.R.* 65, 807-70  
(1940).—In catalysts with 1.41, 1.03, and 0.40% Pd, the  
lattice const. of Pd is identical with that of the massive  
metal. From the half-widths of the lines, by Scherrer's  
formula, the Pd particles are cubic, and the length of the  
side of a particle, in the 1.41% Pd catalyst, is of the order  
of 240 Å. N. Thon

**ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION**

SECTION	SUBSECTION	CLASSIFICATION	REMARKS
1	2	3	4
5	6	7	8
9	10	11	12
13	14	15	16
17	18	19	20
21	22	23	24
25	26	27	28
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37	38	39	40
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45	46	47	48
49	50	51	52
53	54	55	56
57	58	59	60
61	62	63	64
65	66	67	68
69	70	71	72
73	74	75	76
77	78	79	80
81	82	83	84
85	86	87	88
89	90	91	92
93	94	95	96
97	98	99	100

2

CA

Temperature dependence of the degree of hydrogenation of benzene on palladium catalysts. V. M. Gerasimov, A. V. Frost, and S. S. Yul't. *Vestnik Moshov. Univ. S.*, No. 6, Ser. *Ph.-Mat. i Estest. Nauk* No. 4, 35-40 (1980).—Two catalysts, of different Pd contents, (I) Pd 1.48%, (II) Pd 0.18%, were prepared by impregnating silica gel with Pd-(NH<sub>4</sub>)<sub>2</sub>Cl<sub>2</sub> and reduction with H<sub>2</sub>. On both catalysts, the reaction is zero-order with respect to C<sub>6</sub>H<sub>6</sub> in the presence of excess H<sub>2</sub>. On I, with a catalyst column 11 cm. long, at const. feed rate of C<sub>6</sub>H<sub>6</sub> = 18, H<sub>2</sub> = 88 millimole/hr., the degree of hydrogenation remains const. and temp.-independent, ~ 60%, between 120 and 230°, then falls to 26% at 267°. This behavior is reproducible in repeated runs. On II, at the const. feed rate C<sub>6</sub>H<sub>6</sub> = 9, H<sub>2</sub> = 27 millimole/hr., the degree of conversion increases with the temp. (3.3, 5, 7.5, and 9.5%, at 145, 168, 192, and 208°, resp.). In this range, the activation energy is 6.4 kcal./mole. N. T.

SHIMULIS, V.I.; YAGODOVSKIY, V.D.; GRYAZNOV, V.M.

Spectroscopic study of isomerization kinetics of allylbenzene on  
palladium film. Vest. Mosk. un. Ser.mat.mekh. astron.fiz. khim. 12  
no.4:237-249 '57. (MIRA 11:5)

1.Laboratoriya molekulyarnoy spektroskopii Moskovskogo gosudarstvennogo  
universiteta.

(Benzene--Spectra) (Palladium)

AUTHORS: Gryaznov, V. M., and Yagodovskiy, V. D.

20-1-22/44

TITLE: A Spectroscopic Investigation of the Redistribution of Hydrogen in 1,3-Cyclohexadiene on Palladium Films (Spektroskopicheskoye izucheniye pereraspredeleniya vodoroda v 1,3-tsiklogeksadiyene na plenkakh palladiya).

PERIODICAL: Doklady AN SSSR, 1957, Vol. 116, Nr 1, pp. 81-84 (USSR).

ABSTRACT: The transformation of 1,3-cyclohexadiene in the presence of palladium catalysts and platinum catalysts was studied by Zelinskiy Pavlov and a 2-stage process was determined. Bell & Thomson studied the H<sub>2</sub>-redistribution in the "Deuterization" of cyclohexadienes and of cyclohexene on platinum black and found that the results of their tests are not in agreement with the Zelinskiy-Pavlov-mechanism. Therefore it was interesting to study this redistribution under conditions at which the process does not seem to be complicated by anything. The method of the production of palladium films and the test conditions are described. The absorption spectra of 1,3-cyclohexene were determined on the infrared 2-ray spectrometer IKS-2 (figure 2). Table 1 shows spectra of the threefold mixtures of these

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A Spectroscopic Investigation of the Redistribution of Hydrogen in 1,3-Cyclohexadiene on Palladium Films.

substances. In these latter such bands of the individual components were selected which least overlap with other bands. For them the values of the optical density  $\lg(I/I_0)$  were calculated. According to table 1 for every one of the three hydrocarbons these values increase with their concentration concentration from 9 to 60%. Three tests (4 hours each) were carried out on fresh palladium films with equal 1,3-cyclohexadiene quantities at 50, 57, 5 and again 50, 4°C. The composition of the catalysates is summarized in table 2. On increase in temperature the degree of transformation of cyclohexadiene increased from 39 to 91%. In the third test the activity of the palladium film sank. The molar ratio between benzene and cyclohexene, however, remained equal to 1, which completely corresponds to the first transformation stage by Zelinskiy Pavlov. Further test series showed that in the case of 2,5 hours duration of contact the transformation of cyclohexadiene is insignificant, at 50°C it approaches 40 Mol % and at 70°C it is complete. Already

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A Spectroscopic Investigation of the Redistribution of Hydrogen in 1,3-Cyclohexadiene on Palladium Films. 20-1-22/44

at 50°C the forming cyclohexene is converted to cyclohexane and benzene. Finally details of the behavior of the palladium film in such tests is described.

There are 2 figures, 2 tables and 11 references, 5 of which are Slavic.

ASSOCIATION: Moscow State University imeni M. V. Lomonosov. (Moskovskiy gosudarstvennyy universitet imeni M. V. Lomonosova).

PRESENTED: By Balandin, A. A., Academician, May 3, 1957

SUBMITTED: April 27, 1957.

Card 3/3

AUTHORS: Gryaznov, V. M., Yagodovskiy, V. D., SOV/48-22-9-36/40  
~~Shimulis, V. I.~~

TITLE: Methods of Spectroscopic Investigation of Catalytic Transformations on Metal Films (Spektroskopicheskiye metody issledovaniya kataliticheskikh prevrashcheniy na plenkach metallov)

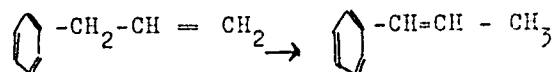
PERIODICAL: Izvestiya Akademii nauk SSSR. Seriya fizicheskaya, 1958, Vol 22, Nr 9, pp 1136 - 1140 (USSR)

ABSTRACT: Metal films prepared under a high vacuum differ from catalysts obtained by other methods by the high purity of their surface. Nevertheless the catalytic activity of such films is comparatively low. In the course of time it also disappears at higher temperatures. In order to determine in a rapid manner the extent of the reactions catalyzed by these films the authors employed optical cuvettes. It is possible to apply a film to their walls and windows in vacuo. The time course of the isomerization process of allyl benzene into propenyl benzene

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Methods of Spectroscopic Investigation of Catalytic Transformations on Metal Films

SOV/48-22-9-36/40



on palladium films was studied with the help of ultraviolet absorption spectra. The palladium films were sublimated in a vacuum of  $1 \cdot 10^{-6}$  torr on the interior walls of a seamless fused quartz cuvette with a length of 150 mm. The cuvette was furnished with windows 1 and 1' with a diameter of 40 mm (Fig 1). The mirror monochromator ZMR-2 with a photoelectric recorder was used for the recording of the absorption spectra of allyl benzene and of propenyl benzene. The accurate method employed and the results achieved were published already in reference 1. The transformation of 1,3 cyclo hexadiene into benzene and cyclohexene even at room temperature proceeds within a few minutes. The transformations of cyclohexene into benzene and cyclohexane proceeds much slower. The transformations of cyclohexadiene on transparent palladium films with a thickness of the order of 100 Å were also investigated. The films were applied directly to the

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Methods of Spectroscopic Investigation of Catalytic  
Transformations on Metal Films

SOV/48-22-9-36/40

windows of the seamless fused quartz cuvette. The absorption of ultraviolet radiation by the benzene which is contained in the vapors and in the layers absorbed on the cuvette windows was measurable with a cuvette length of 16 mm. The absorption spectra of benzene obtained under the conditions described were compared with those obtained from a thicker vapor layer. The ~~DFS~~ -3 diffraction spectrograph with a dispersion of  $2 \text{ \AA mm}^{-1}$  and a theoretical resolution of 144 000 was used. 52 absorption bands were observed with an absorbing layer with a thickness of 170 nm and a benzene vapor pressure of 0,1 torr. The half width of most of the absorption bands did hardly differ from those obtained from iron arc. Apart from the extinction coefficient of the benzene absorbed on the Pd-film only small differences in the shape were observed in a comparison with the benzene absorbed on the quartz windows. This effect requires further investigation. The authors acknowledge valuable suggestions given by V.M.Tatevskiy.

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Methods of Spectroscopic Investigation of Catalytic Transformations on Metal Films SOV/48-22-9-36/40

There are 2 figures, 1 table, and 3 references, 1 of which is Soviet.

ASSOCIATION: Laboratoriya molekulyarnoy spektroskopii Khimicheskogo fakul'teta Moskovskogo gos. universiteta im.M.V.Lomonosova (Laboratory of Molecular Spectroscopy at the **Chemistry Department** of the Moscow State University imeni M.V. Lomonosov)

Card 4/4

5(4)

AUTHORS: Gryaznev, V. M., Yagodoveriy, V. D.,  
Bogomolnyy, A. M., Kho Dyuk

SOV/20-121-3-29/47

TITLE: The Spectroscopic Investigation of the Adsorption and of the Catalytic Conversion of Cyclohexadiene on Transparent Films of Palladium (Spektrskopicheskoye izucheniye adsorbtsii i kataliticheskogo prevrashcheniya tsiklogeksadiyena na prozrachnykh plenkakh palladiya)

PERIODICAL: Doklady Akademii nauk SSSR 1958, Vol 121, No 3, pp 499-502 (USSR)

ABSTRACT: First, some previous papers concerning this subject are discussed in a few lines. It was desirable to work out a method for spectroscopic investigation and the catalytic conversions on metal layers with a given optical density. These metal layers should, if possible, be free from foreign gases and vapors. Palladium with a thickness of  $\sim 200 \text{ \AA}$  was sublimated in a vacuum on the windows of an optical cell. These films have a noticeable catalytic activity even at room temperature. The absorption spectrum of the cyclohexadiene-1,3 vapors were replaced already after some minutes by the characteristic absorption bands of

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The Spectroscopic Investigation of the Adsorption SOV/20-121-3-29/47  
and of the Catalytic Conversion of Cyclohexadiene on Transparent Films  
of Palladium

benzene vapors. This is an argument in favor of the practically total completion of the reaction  $2C_6H_8 \rightarrow C_6H_6 + C_6H_{10}$ . Palladium films with a thickness of  $\sim 100 \text{ \AA}$  on fluorite windows of the cell (which was used for investigations in the infrared part of the spectrum) had a less intensive catalytic activity. The absorption spectra of cyclohexadiene are demonstrated in a number of diagrams. Palladium films which diminished the light intensity passing through (at  $2000 \text{ cm}^{-1}$ ) to 25 % of the initial one were laid on the windows of both cells. Palladium has no absorption bands in this spectral part. A further diagram demonstrates the absorption spectra for a film which absorbed 30 % of the radiation intensity of the frequency  $\text{cm}^{-1}$ . Absorption at the frequency of  $3050 \text{ cm}^{-1}$  increases when the time of contact of the cyclohexadiene vapors with the palladium films increases. The intensity of the absorption bands of cyclohexadiene is slightly diminished. Extraordinarily thin palladium films on fluorite therefore also have a catalytic activity with respect to the reaction  $2C_6H_8 \rightarrow C_6H_6 + C_6H_{10}$ . There is no band of  $3050 \text{ cm}^{-1}$  in the

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The Spectroscopic Investigation of the Adsorption and SO7/20-121-3-29/47  
of the Catalytic Conversion of Cyclohexadiene on Transparent Films of  
Palladium

spectrum of strongly absorbed cyclohexadiene. Therefore, there are no vibrations of the bonds C .. H of the groups C .. H in the spectrum of cyclohexadiene strongly absorbed on palladium. A similar result was found also for very thin palladium films of rock-salt. In this case, also the band  $3050\text{ cm}^{-1}$  was found. The spectra of strongly absorbed cyclohexadiene and the spectra of the vapors (for the pressures 12, 30 and 50 mm) have similar frequencies. The authors thank Professor V. M. Tatevskiy for his help and for discussing the results. There are 2 figures and 8 references, 2 of which are Soviet.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: April 24, 1958, by A. A. Balandin, Academician

SUBMITTED: April 11, 1958

Card 3/3

KISELEVA, Ye.V.; KARETNIKOV, G.S.; KUDRYASHOV, I.V.; BOTVINKIN, O.K., doktor  
khim.nauk, retsenzent; MAKOLKIN, I.A., doktor tekhn.nauk, retsenzent;  
MISHCHENKO, K.P., doktor khim.nauk, retsenzent; GRYAZNOV, V.M.,  
red.; REZUKHINA, T.N., red.; ZAZUL'SKAYA, V.P., tekhn.red.

[Collection of illustrated physical chemistry problems and exercises]  
Sbornik primerov i zadach po fizicheskoi khimii. Moskva, Gos.  
nauchno-tekhn.izd-vo khim.lit-ry, 1960. 264 p. (MIRA 13:7)  
(Chemistry, Physical and theoretical--Problems, exercises, etc.)

FROST, Andrey Vladimirovich, prof. [deceased]. Prinimali uchastiye:  
 BUSHMAKIN, I.N.; VVEDENSKIY, A.A.; GRYAZNOV, V.M.; DEMENT'YEVA,  
 M.I.; DINTSES, A.I.; DOBRONRAVOV, R.K.; ZHARKOVA, V.R.; ZHERKO,  
 A.V.; IPAT'YEV, V.N.; KVYATKOVSKIY, D.A.; KOROBV, V.V.; MOOR,  
 V.G.; NEMTSOV, M.S.; RAKOVSKIY, A.V.; REMIZ, Ye.K.; RUDKOVSKIY,  
 D.M.; RYSAKOV, M.V.; SEREBRYAKOVA, Ye.K.; STEPUKHOVICH, A.D.;  
 STRIGALEVA, N.V.; TATEVSKIY, V.M.; TILICHEYEV, M.D.; TRIFEL',  
 A.G.; FROST, O.I.; SHILYAYEVA, L.V.; SHCHEKIN, V.V.; DOLGOPOLOV,  
 M.N., sostavitel'; GERASIMOV, Ya.I., otv.red.; SMIRNOVA, I.V., red.;  
 TOPCHIEVA, K.V.; YASTREBOV, V.V., red.; KONDRASHKOVA, S.F., red.  
 izd-va; LAZAREVA, L.V., tekhn.red.

[Selected scientific works] Izbrannye nauchnye trudy. Moskva,  
 Izd-vo Mosk.univ., 1960. 512 p. (MIRA 13:5)

1. Chlen-korrespondent AN SSSR (for Gerasimov).  
 (Chemistry, Physical and theoretical)

SHIMULIS, V.I.; GRYAZNOV, V.M.; CHERKASHIN, A. Ye.

Kinetics of the high-temperature isomerization of allylbenzene  
on platinum films. Kin. i kat. 1 no. 3:401-407 8-0 '60.  
(MIRA 13:11)

1. Khimicheskiy fakul'tet Moskovskogo gosudarstvennogo  
universiteta.

(Benzene) (Isomerization) (Platinum)



GRYAZNOV, V.M.; YAGODOVSKIY, V.D.; CHARKVIANI, M.K.

Adsorption of cyclohexene, and kinetics of its catalytic conversion  
on palladium films. Vest.Mosk.un.Ser. 2: Khim. 15 no.1:11-24  
'60. (MIRA 13:7)

1. Kafedra fizicheskoy khimii Moskovskogo universiteta.  
(Cyclohexene) (Palladium)

S/020/60/132/05/44/069  
B004/B011

5.1190  
AUTHORS:

Gryaznov, V. M., Shimulis, V. I., Yagodovskiy, V. D.

TITLE:

Influence of Adsorption<sup>1</sup> of Benzene Vapor on the Electrical Conductivity of Transparent Platinum Films of Various Surface Density

PERIODICAL: Doklady Akademii nauk SSSR, 1960, Vol. 132, No. 5, pp. 1132-1135

TEXT: The paper under review was submitted to the Konferentsiya po organicheskomu katalizu (Conference on Organic Catalysis), Moscow, November 1959. The authors investigated the influence of adsorption of benzene vapor at 20°C on the electrical conductivity of platinum films that were prepared by evaporating metals at  $1 \cdot 10^{-7}$  torr onto the walls of a glass cell. The benzene vapor was led through at a constant rate of  $(3.8 \pm 0.3) \cdot 10^{14}$  molecules per minute. The conductivity of all films dropped with rising stable adsorption of the benzene vapor. Fig. 1 shows, however, that the films behaved differently depending on their thickness

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Influence of Adsorption of Benzene Vapor on the S/020/60/132/05/44/069  
Electrical Conductivity of Transparent Platinum B004/B011  
Films of Various Surface Density

(10-50 A). In order to test the dependence of the conductivity of differently dense films on the amount of stably adsorbed benzene, experiments were conducted the results of which are given in Table 1. The authors found that the structure of the films is greatly dependent on difficultly controllable circumstances in their production. At any rate, a linear segment is shown for each film in the diagram: conductivity - number of adsorbed  $C_6H_6$  molecules. The authors assume that the linear dependence reproduces only average values, and that at  $20^\circ C$  the benzene adsorption takes place in centers with different adsorption potential. They conducted experiments in which the contact wires were connected only to the upper part of the platinum film, while the benzene vapor was let into the cell either from top or from bottom (Fig. 3). The authors conclude from the results obtained that in the sections of the film where benzene is introduced there occurs both a stable and a reversible adsorption before the stable adsorption begins at the remoter film sections, and later there occurs a rearrangement of the adsorbed molecules. Under experimental conditions, the rearrangement required about 10 minutes.

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Influence of Adsorption of Benzene Vapor on the S/020/60/132/05/44/069  
Electrical Conductivity of Transparent Platinum B004/B011  
Films of Various Surface Density

There are 3 figures, 1 table, and 11 references: 3 Soviet, 1 Belgian,  
1 British, and 6 German.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: February 4, 1960, by M. M. Dubinin, Academician

SUBMITTED: January 30, 1960

Card 3/3

GRYAZNOV, V.M.; YAGODOVSKIY, V.D.; SHIMULIS, V.I.

Effect of thermal treatment on the catalytic properties of a  
platinum film. Kin. i kat. 2 no.2:221-227 Mr-Ap '61.

(MIRA 14:6)

1. Moskovskiy gosudarstvennyy universitet, khimicheskii fakul'tet.  
(Platinum) (Catalysts)

24 2130

30341

S/189/61/000/006/002/005  
D228/D304

AUTHORS: Gryaznov, V.M. and Shimulis, V.I.

TITLE: Influence of the sorption of hydrogen on the  
electroconductivity of transparent films of  
platinum

PERIODICAL: Moscow. Universitet. Vestnik. Seriya II. Khimiya,  
/6.no. 6, 1961, 25-27

TEXT: In studying this question the authors used the method  
involving 1 - 3 successive flows of hydrogen through a capil-  
lary at 20°. Three transparent films of platinum - with a sur-  
face density of  $2.0 - 3.5 \times 10^{16}$  atoms/cm<sup>2</sup> - were prepared on  
the glass partitions of a cell. The sorption pressure was mea-  
sured by a calibrated ЛТ-2 (LT-2) lamp whose e.m.f. was recor-  
ded on an ЭПП-09 (EPP-09) potentiometer. The maximum amounts  
of sorbed hydrogen, calculated from sorption-isotherm diagrams,

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Influence of the sorption ...

30341  
S/189/61/000/006/002/005  
D228/D304

equalled  $7-12 \times 10^{16}$  mcl.; the authors' data appear to confirm those of N.N. Kartaradze (Ref. 3: Dokl. AN SSSR, 114, 822, 1957) concerning the fact that hydrogen is both stably and reversibly adsorbed. The results of another test with the additional admission of cyclohexane vapors suggest that stably adsorbed hydrocarbon strongly decreases the sorption of hydrogen. Intermittent rises in the resistance of one of the films, which were very pronounced at the beginning of the experiment with a single application of hydrogen, may be related to changes in the film's structure in consequence of the solution of hydrogen. Apart from these, however, the film's electroresistance smoothly decreases with increasing time, especially in the case of three successive applications of hydrogen. There are 2 figures and 5 references: 3 Soviet-bloc and 2 non-Soviet-bloc. X

ASSOCIATION: Kafedra fizicheskoy khimii (Department of Physical Chemistry)

SUBMITTED: November 2, 1960

Card 2/2

SHIMULIS, V.I.; GRYAZNOV, V.M. (Moskva)

Improved method of studying adsorption on substances with small specific surface areas. Zhur. fiz. khim. 35 no. 4:942-945 Ap '61.

(MIRA 14:5)

1. Khimicheskiy fakul'tet Moskovskogo gosudarstvennogo universiteta imeni M.V. Lomonosova.

(Adsorption)



20358

S/020/61/136/005/016/032  
B103/B208

5.1190

2209 1208 1274

AUTHORS: Gryaznov, V. M., Shimulis, V. I., and Yagodovskiy, V. D.

TITLE: Dependence of catalytic properties of metals on the degree of approach of their surface state to equilibrium

PERIODICAL: Doklady Akademii nauk SSSR, v. 136, no. 5, 1961, 1086-1089

TEXT: In the introduction, the authors discuss the thermodynamic conditions of equilibrium of the active centers with the crystal lattice in metal catalysts, basing on the data of O. M. Poltorak, Refs. 4, 5; and Refs. 1, 3, 6. From their own studies and these data they came to the conclusion that a study of the kinetics of catalytic reactions in a wide temperature range permits conclusions as to the degree of equilibrium attained between the active centers and the crystal lattice of the catalyst. The influence of thermal treatment upon activity and selective effect of the catalyst may be explained on the basis of these data. If the assumptions of the authors are correct, the afore-mentioned kinetics may be used to clarify the influence of temperature and preceding thermal treatment. Particularly, at temperatures which do not give rise to an

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B103/B208

Dependence of catalytic properties ...

equilibrium concentration of the active centers, the degree of approach to this concentration must be mainly dependent on the cooling rate of the catalyst at elevated temperature. After quick cooling (quenching) of the catalyst the concentration of the active centers will deviate from equilibrium concentration more strongly than after slow cooling. In the case of catalytic activity of atomic structures consisting of an unequal quantity of atoms, the rates of establishing equilibrium will differ with increasing temperature; the activation energy of this process will increase from simple centers to more complicated ones. In this way, first the equilibrium concentrations of the simpler centers will be attained, and then those of the more complicated ones. The selective effect of the catalyst depends on this changed concentration of different centers. The expected effects were confirmed by the authors' experiments. Cyclohexene was dehydrogenated to benzene on a platinum film heated only up to 500°C. On a platinum film heated to 700°C in high vacuum the conversion of cyclohexene sets in only beyond 450°C, giving cyclohexadiene-1,3. Therefrom, the authors conclude that dehydrogenation to benzene takes place on more complicated centers which are less stable

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20358

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B103/B208

Dependence of catalytic properties ...

in thermodynamic respects up to 700°C, than those yielding cyclohexadiene. The authors conclude from the fact that these more complicated centers are conserved at 500°C that the activation energy of their destruction is high. It was shown in two experimental series that the activation energy of cyclohexadiene formation between 520 and 600°C is, accordingly, 60 kcal/mole. At lower temperatures, the activity of the catalyst decreased. In the third experimental series it was 60 kcal/mole in the entire range of 450-600°C. This indicates that in this case the equilibrium concentration was attained. After quenching the film (cooling from 700 to 460°C within 4 min) the activation energy dropped to 26 kcal/mole, while the activity of the film rapidly increased. On the other hand, these values remained unchanged in the range of higher temperatures. The authors point out that the difference of the activation energies obtained, 60 - 26 = 34 kcal/mole, was the same as in the isomerization of allyl benzene on platinum films (Ref. 1). The authors assume therefore that the two reactions proceed on active centers in an equilibrium of the same type. If the centers out of equilibrium which are formed after quenching or in the course of the synthesis of the catalyst are of the

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Dependence of catalytic properties ...

20358  
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same type as those being in equilibrium with the lattice of the catalyst, the formation heat of the latter may be determined by formula (8) (Ref. 2) from the difference of the activation energies obtained on the two types of centers (in equilibrium and out of equilibrium). Finally, the authors give the data obtained by other scientists (N. D. Zelinskiy and G. S. Pavlov, Ref. 8; B. V. Yerofeyev and N. V. Nikiforova, Ref. 9), which confirm their own results. There are 11 references: 9 Soviet-bloc and 2 non-Soviet-bloc.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet im. M. V. Lomonosova  
(Moscow State University imeni M. V. Lomonosov)

PRESENTED: September 17, 1960, by A. A. Balandin, Academician

SUBMITTED: September 16, 1960

Card 4/4

SHIMULIS, V.I.; GRYAZNOV, V.M.

Mobility of atoms at a crystal surface at the fusion temperature.  
Dokl. AN SSSR 137 no.3:648-651 Mr '61. (MIRA 14:2)

1. Moskovskiy gosudarstvennyy universitet im.M.V.Lomonosova. Pred-  
stavleno akademikom M.M.Dubininym. (Metal crystals) (Adsorption)

GRYAZNOV, V.M.; SHIMULIS, V.I.

Interaction between benzene vapors and platinum films. Kin.i kat.  
2 no.4:534-537 JI-Ag '61. (MIRA 14:10)

1. Moskovskiy gosudarstvennyy universitet imeni M.V.Lomonosova,  
Khimicheskiy fakul'tet.  
(Benzene) (Platinum) (Adsorption)

GRYAZNOV, V.M.; SHIMULIS, V.I.

Mechanism of cyclohexene and 1,3-cyclohexadiene transformations on  
platinum films. Dokl. AN SSSR 139 no.4:870-873 Ag '61. (MIRA 14:7)

1. Moskovskiy gosudarstvennyy universitet im. M.V. Lomonosova.  
Predstavleno akademikom A.A. Balandinym.  
(Cyclohexene) (Cyclohexadiene)

GRYAZNOV, V.M.; SHIMULIS, V.I.

Catalytic dehydrogenation of cyclohexene and 1,3-cyclohexadiene  
on platinum films at 20°. Kin.1 kat. 2 no.6:894-899 N-D '61.

(MIRA 14:12)

1. Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova,  
khimicheskiy fakul'tet.

(Cyclohexene)

(Cyclohexadiene)

(Dehydrogenation)



GRYAZNOV, V.M.; YAGODOVSKIY, V.D.; SAVEL'YEVA, Ye.A.; SHIMULIS, V.I.

Different catalytic activities of platinum and palladium in  
cyclohexene and cyclohexadiene conversions. Kin.i kat. }  
no.1:99-102 '62. (MIRA 15:3)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova,  
khimicheskiy fakul'tet.  
(Cyclohexene) (Cyclohexadiene) (Catalysis)

GRYAZNOV, V.M.; SHIMULIS, V.I.; DILINGEROVA, T.V.

Adsorption and dehydrogenation of cyclohexane on platinum films  
at room temperature. Vest.Mosk.un.Ser.2: Khim. 17 no.2:26-28  
Mr-Ap '62. (MIRA 15:4)

1. Kafedra fizicheskoy khimii Moskovskogo universiteta.  
(Cyclohexane) (Adsorption) (Dehydrogenation)

GRYAZNOV, V.M.

Effect of pressure on the redistribution of hydrogen in  
cyclohexene. Kin. i kat. 4 no. 2: 282-285 Mr-Ap '63. (MIRA 16:5)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova,  
khimicheskiy fakul'tet.  
(Cyclohexene) (Hydrogen) (Catalysts)

GRYAZNOV, V.M.; YAGODOVSKIY, V.D.

Mechanism of hydrogen redistribution in cyclohexene and 1,3-cyclohexadiene over palladium based on kinetic data. Kin. i kat. 4 no.3:404-408 My-Je '63. (MIRA 16:7)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova, khimicheskii fakul'tet.  
(Hydrogene) (Cyclohexene)  
(Palladium catalysts)

YAGODOVSKIY, V.D.; GRYAZNOV, V.M.; SAVEL'YEVA, Ye. A.

Kinetics of 1,3-cyclohexadiene dehydrogenation on platinum  
films in a wide range of temperatures. Kin.i kat. 4 no.5:  
746-752 S-O '63. (MIRA 16:12)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova,  
khimicheskii fakul'tet.

ZEMANEK, F.; SIMULIS, V.I. [Shimulis, V.I.]; GRJAZNOV, V.M. [Gryaznov, V.M.]

Dehydration of cyclohexenes by irreversible catalysis on a palladium film. Coll Cz Chem 28 no.11:2927-2931 N°63.

1. Institut für physikalische Chemie, Karlsuniversität, Prag  
und Institut für physikalische und Kolloidchemie, Universität  
der Völkerfreundschaft, Moskau.

L 16594-63

EPF(c)/EWP(q)/EWT(m)/BDS AFFTC Pr-4 RM/WW/JD  
S/074/63/032/004/001/002

63  
62

AUTHOR: Gryaznov, V. M.

TITLE: On the mechanism of the catalytic redistribution of hydrogen in unsaturated cyclic hydrocarbons 1

PERIODICAL: Uspekhi khimii, v. 32, no. 4, April 1963, 433-456 27

TEXT: The author notes the marked influence of catalyst type upon the process referred to in the title and the relative paucity of corresponding data in the chemical literature. He proceeds to summarize in detail the various approaches to the problem in the first half of the century, devoting separate sections of the article to the dehydration-hydration theory, the direct inter-molecular transfer of hydrogen atoms as a possible explanation, new data relating to palladium and platinum catalytic action, the influence of the catalyst-metal's ability to absorb hydrogen, features of the use of acid catalysts, and the peculiarities of aluminosilicate catalysts in the reaction in question.

Card 1/2

L 16594-63

S/074/63/032/004/001/002

On the mechanism of the catalytic...

He concludes that, despite marked differences in hydrogen redistribution with use of metallic, acid and aluminosilicate catalysts, one may delineate certain basic stages common to all these types. It is the "stage" distribution which enables one to regard the varying experimental data from a unique point of view. The character of the products of the transformation depends upon the degree of balance of the reactions of dehydration and hydration; this is made easier by maintaining the hydrogen in a form active for hydration, on the surface or in the near-surface layer of the catalyst. Much of the article is devoted to new data. There are 8 diagrams and an extensive bibliography of 100 items.

ASSOCIATION: Khimicheskiy fakul'tet MGU (Chemistry Department of the Moscow State University)

Card 2/2



SHIMOLIS, V. I.; GRYAZNOV, V. M.

Adsorption of isopropyl alcohol vapors on germanium. Zhur. fiz.  
khim. 37 no. 3:595-600 Mr '63. (MIRA 17:5)

1. Moskovskiy gosudarstvennyy universitet imeni Lomonosova.

GRYAZNOV, V. M.; SHIMULIS, V. I.; YAGODOVSKIY, V. D.

"About mechanism of catalytic conversions and strong adsorption of unsaturated cyclic hydrocarbons on platinum and palladium."

report submitted to 3rd Intl Cong on Catalysis, Amsterdam, 20-25 Jul 64.

Patrice Lumumba Peoples' Friendship Univ, Moscow.

L 61918-65 EWT(m)/EPF(c)/EWP(i)/EPF(n)-2/EWP(t)/EWP(b) Pr-4/Ps-4/

PJ-4 IJP(c) JD/JG  
ACCESSION NR: AP5016813

UR/0195/64/006/003/0486/0492  
541.183 : 546.294 : 546.92

AUTHOR: Adamek, Ya.; Yagodovskiy, V. D.; Gryaznov, V. M.

TITLE: Adsorption of krypton on thermally treated platinum films

SOURCE: Kinetika i kataliz, v. 6, no. 3, 1965, 486-492

TOPIC TAGS: adsorption, krypton, platinum film, pyrex support, quartz support

ABSTRACT: Adsorption of krypton at  $-195^{\circ}\text{C}$  was studied on two platinum film samples which were prepared by high vacuum evaporation and subsequently activated in the  $100^{\circ}$ - $740^{\circ}\text{C}$  range. Both film samples were repeatedly thermally treated for 10 min. at  $5 \cdot 10^7$  mm Hg. The first film sample was prepared by evaporation of Pt onto a pyrex glass cylinder. Effective thickness of the Pt film was 500 angstroms. According to the krypton adsorption isotherms at  $-195^{\circ}\text{C}$  the increase of temperature of thermal pretreatment (from  $100^{\circ}$  to  $630^{\circ}\text{C}$ ) results in a substantial increase of krypton take-up and, thus, of platinum surface area. The  $\frac{1}{n}$  reciprocal (where  $n$  is a constant in the Freundlich isotherm equation) decreased with pretreatment tempera-

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ACCESSION NR: AP5016813

ture and reached a minimum at 630°F. This indicates that the higher the pretreatment temperature the greater the decline in surface inhomogeneity. The second film sample was prepared by evaporation of Pt onto a quartz base. Effective thickness of this Pt film was 800 angstroms. In this case the increase of pretreatment temperature from 125° to the 300°-740°C range resulted in only a slight increase in krypton up-take. The shape of the krypton adsorption isotherms indicates that the mechanism of adsorption on Pt film on quartz is more complicated than the mechanism of adsorption on Pt film on pyrex. Also, in the case of Pt on quartz, the thermal treatment resulted in an increase of the surface homogeneity. For both Pt film samples, the increase of metal surface area after thermal treatment was partially lost when samples were cooled below room temperature. This effect is explained in terms of competing processes of formation and disappearance of surface microdefects. "The authors thank E. V. Khrapov and V. I. Shimulis for participation in discussion of this work." Orig. art. has: 1 table, 4 figures.

ASSOCIATION: Universitet druzhby narodov im. P. Lumumby, Moscow (Friendship University); Karlov universitet, Prague, ChSSR (Karlov University, ChSSR)

SUBMITTED: 13Nov63

ENCL: 00

SUB CODE: IC, GC

Card 2/3

L 61918-65

ACCESSION NR: AP5016813

NO REF GOV: 008

OTHER: 003

Card 3/3 *ylb*

GRYAZNOV, V. N. (Dept. Chem., Moscow State U.)

"Application of Infrared Spectra for the study of Catalytic Transformation on Metals," p. 2.

report to be presented at 1958 Gordon Conference on Infrared Spectroscopy, 18-22 Aug 1958, Kimball Union Acad., Meridian, New Hampshire.

GRYAZNOV, V.N.; KHARIN, V.S.

Methodology of graphic recording of the retrograde coronary blood flow. Eksp. khir. i anest. 8 no.4:41-42 JI-Ag '63.

(MIRA 17:5)

1. Kafedra operativnoy khirurgii s topograficheskoy anatomiyei  
(zaveduyushchiy-prof. T.F. Lavrova) Voronezhskogo meditsinskogo  
instituta.

GRYAZNOV, V.P.; SKOPAROV, I.Ya.

District road maintenance service in fight for the title of  
an enterprise of communist labor. Avt. dor. 27 no.9:17 S '64.  
(MIRA 17:11)



GRYAZNOV, V.N.

Effect of experimental resection of pre- and retroaortic plexus  
on the heart function. Eksper. khir. i anest. no.1 20-25 '65.  
(MIRA 18:11)

1. Kafedra operativnoy khirurgii s topograficheskoy anatomiyey  
(zav. - prof. T.F. Lavrova) Voronezhskogo meditsinskogo insti-  
tuta.

GRYAZNOV, V.P.

Changes in the composition of fusel oil dependent on the type and degree of defectiveness of the raw materials. Fern. i spirt. prom. D no.6:11-14 16%. (MIRA 17:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fermentov i spirtovoy promyshlennosti.

# USSR

A diffusion method (to use) for increasing the alcohol concentration of wines. V. P. Orsyanov. *Vinodelia* : Vinogradarstvo S.S.S.R. 17, No. 2, 14-17(1953).--During the mixing of alc. with wine a series of physicochem. processes take place. At the alc. concn. of 40 vol. % the alc. and water mols. form hydrates accompanied by a max. vol. compression of the mixt., evaluation of heat of approx. 2200 cal./mol., and an increased disson. of the alc. mols. which are usually assoc. in a kind of complex to each other. At an alc. concn. lower or higher than 40 vol. % these processes occur to a smaller extent and are not accompanied by full disson. of the complex. After the addn. of alc. to a wine an equil. is established between simple and more complex mols. of each liquid. On standing, the equil. shifts to the side of nonassoc. complexes of the alc.; this gives the alc. mixts. undesirable somewhat strong, pungent taste. The addn. of alc. in vapor phase to wine promotes the formation of products which on organoleptic testing appeared less strong than they actually were. An app. is described for the continuous addn. of alc. in the vapor phase (together with CO<sub>2</sub>, if necessary) to wines and grape and fruit juices. E. Wierbicki

GRYAZNOV V.P.

Determination of esters in ethyl alcohol. D. N. Klimovskii, V. P. Gryaznov, and G. V. Rzhchitskaya (Moscow Chemical and Veterinary Plant). *Spiritsodaya Prom.* 20, No. 3,

17-18(1954).—To det. esters in crude or refined EtOH sol. 100 cc. with 100 cc. H<sub>2</sub>O which does not reduce KMnO<sub>4</sub>, then add 40 or 20 ml. 0.1N NaOH, and let stand for 1 hr. with occasional shaking. Then titrate back with 0.1N H<sub>2</sub>SO<sub>4</sub> out of contact with CO<sub>2</sub>.  
Werner Jacobson —

*MA J*

GRYAZNOV, V.P.:

GRYAZNOV, V.P.: "Alcohol losses during storage". Moscow, 1955. Min  
Higher Education USSR. Moscow Technological Inst of the Food Industry.  
(Dissertations for the Degree of Candidate of Technical Sciences)

SO: Knizhnaya letopis' No 44, 29 October 1955. Moscow.

*Plants* The separation of the head impurities by periodic rectification. V. P. Gryaznov (Alc. Plant, Artemovsk). *Spirto-vaia Prom.* 22, No. 2, 17-18 (1954).—Two thousand five hundred decaliters of crude EtOH prepared from a rye-potato mas. were distd. through a column during 35, 60, and 90 min., resp. The analyses of the heads showed that the following enrichments had occurred after these distn. times: Aldehydes 60, 143, and 200; MeOH 2.5, 7, and 10; esters 17.5, 22 and 23 times the original values, resp.

Werner Jacobson

GRYAZNOV, V.P.; SOKOLOV, B.I.

Rectification of crude molasses alcohol at the Kaluga Liqueur  
and Vodka Plant. Spirt. prom. 23 no.2:24-25 '57. (MLRA 10:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut spirtovoy pro-  
myshlennosti. (for Gryaznov). 2. Rosglavspirt (for Sokolov)  
(Alcohol)

Oryzanol, V.P.

The identification of esters in the products of the re-  
 fraction (of alcohol), V. P. Oryzanol, and G. V. Ralovskii  
 shova. *Sovetskaya Pechat*, No. 6, 4-6 (1957). The esters  
 are identified according to a chromatographic method. The  
 acid radical (spot) is developed as nitrophenolate, and the  
 acid radical is caused to form the corresponding hydrocarbons  
 acid. This way it was possible to identify in the various  
 fractions of the distn. AcOMe, AcOEt, AcOPr, Et  
 butyrate, isobutyl isovalerate, isobutyl acetate, and Et  
 valerate. Warner J. J. J.

4E3d  
 4E4S

11  
 112



GRYAZNOV, Vyacheslav Pavlovich, kand. tekhn. nauk; ZELIKMAN, Grigoriy  
Fedorovich, kand. tekhn. nauk; KUZNETSOV, N.M., inzh., retsenzent;  
FERTMAN, G.I., kand. tekhn. nauk, spetsred.; RESH, G.S., red.;  
CHIBYSHOVA, Ye.A., tekhn. red.

[Calculation, storage and transportation of distilled spirits]  
Uchet, khranenie i transportirovka spirita. Moskva, Pishchepromizdat,  
1958. 179 p. (MIRA 11:7)

(Alcohols)

GRYZNOV, V.P.

Work in improving the quality of alcohol and increasing the  
productivity of rectification apparatus done at the All-Union  
Scientific Research Institute of the Distilling Industry. Izv.  
vys. ucheb. zav.; pishch. tekhn. no. 2:161-165 '58. (MIRA 11:10)  
(Distilling industries)

GRYAZNOV, V.P.; KALUNYANTS, K.A.; RZHECHITSKAYA, G.V.

Increasing the stripping section of the purifying column of  
a distillation apparatus. Spirt. prom. 24 no.3:6-10 '58.

(MIRA 11:6)

(Distillation apparatus)

~~GRYAZNOV, V.P.~~

Improving beer rectifying apparatus. Spirt. prom. 24 no.7:  
14-18 '58. (MIRA 11:11)  
(Distillation apparatus)

GRYAZNOV, V.P.; RZHECHITSKAYA, G.V .

Identification of aldehydes in ethyl alcohol. Izv.vys.ucheb.  
zav.; pishch.tekh. no.3:167-169 '59. (MIRA 12:12)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut spirtovoy  
promyshlennosti. Laboratoriya rektifikatsii.  
(Ethyl alcohol) (Aldehydes)

GRYAZNOV, V.P.; KHOROSHKOVA, M.P.; POLOZHENTSEVA, N.G.; RZHECHITSKA, G.V.

Chromatographic and spectrophotometric analysis of impurities in  
alcohol. Izv.vys.ucheb.zav.; pishch.tekh. no.5:157-164 59.  
(MIRA 13:4)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut spirtovoy i likero-  
vodochnoy promyshlennosti.  
(Alcohols)

GRYAZNOV, V.P.

Identification of impurities in alcohol. Trudy TSNIIISP no.7:84-  
89 '59. (MIRA 13:9)

(Alcohol--Analysis)

GRYAZNOV, V.P.; RZHECHITSKAYA, G.V.

Rectification of alcohol in the processing of a defective starchy  
raw material. Trudy TSNIISP no. 8:35-46 '59. (MIRA 14:1)  
(Alcohol) (Distillation, Fractional)



GRYAZNOV, V.P.; PAKHALOV, A.P.; RZHECHITSKAYA, G.V.

Rectification of a crude sugar-beet alcohol in intermittent  
distillation apparatus. Spirt. prom. 25 no.6:19-22 '59.

(MIRA 12:12)

(Lipetsk--Alcohol) (Distillation, Fractional)

TERNOVSKIY, N.S.; GHYAZNOV, V.P.

Beer rectification columns used in France. Spirt.prom.  
26 no.4:27-31 '60. (MIRA 13:8)  
(France--Distilling industries--Equipment and supplies)

GRYAZNOV, V.P.; BOGDANOV, Yu.P.

System for the thermal processing of alcohol under hydrostatic  
pressure. Trudy TSNIISP no.12:22-25 '62. (MIRA 17:3)

GRYAZNOV, V.P.; BOGDANOV, Yu.P.; RZHECHITSKAYA, G.V.; TERNOVSKIY, N.S.;  
GRACHEV, B.K. [deceased] MERKIN, V.G.; POLEVAYA, K.G.;  
AKIMENKO, I.S.

Double-flow beer rectification apparatus. Spirt. prom. 28  
no.7:35-37 '62. (MIRA 17:2)

1. Tsentral'nyy nauchno-issledovatel'skiy institut spirtovoy i  
likero-vodochnoy promyshlennosti (for Gryaznov, Bogdanov,  
Rzhechitskaya, Ternovskiy). 2. Lipetskiy spirtovoy zavod (for  
Grachev, Merkin, Polevaya, Akimenko).

GRYAZNOV, V.P., inzh.

Powerful tool for increasing labor productivity. Avt. dor. 27  
no.8:4-5, 7 Ag '64. (MIRA 17:12)

GRYAZNOV, V.P.

Comparative composition of crude alcohol obtained from the  
saccharification of mash with malt and by a mold fungi culture.  
Ferm. i spirt. prom. 31 no. 1:24-25 '65.

(MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fermentnoy  
i spirtovoy promyshlennosti.

TERNOVSKIY, N.S.; GRYAZNOV, V.P.

Experience in the thermal processing of alcohol in the Michurinsk and Lipetsk distilleries. Ferm. i spirt. prom. 31 no.2:36-38 '65.  
(MIRA 18:6)

1. Gosudarstvennyy komitet po pishchevoy promyshlennosti (for Ternovskiy). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut fermentnoy i spirtovoy promyshlennosti (for Gryaznov).





GRACHEVA, I.M.; BABAYEVA, S.A.; GRYAZNOV, V.I.

Effect of individual amino acids on the formation of higher  
alcohols in alcohol fermentation. Izv. biokhim. i  
mikrobiol. 1 no.5:529-537 S.O '65. (MIRA 18:11)

1. Moskovskiy tekhnologicheskii institut pishchevoy promysh-  
lennosti.

BOGDANOV, Yu.P.; GRYAZNOV, V.P.

Studying the process of beer distillation in apparatus operating under atmospheric pressure. Ferm. i spirt. prom. 31 no.7:28-33 '65. (MIRA 18:11)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut fermentnoy i spirtovoy promyshlennosti.

SHKILEV, V.V.; GRYAZNOV, Ye.A.; SYCHEVSKIY, P.T.

Plague outbreak among Brandt's field voles in the Mongolian  
People's Republic. Izv.Irk.gos.nauch.-issl.protivochum.  
inst. 19:50-59 '58. (MIRA 13:7)  
(Plague) (Mongolia--Field mice)

L 07352-67 EWT(d)/EWT(m)/EWP(v)/EWP(t)/ETI/EWP(k)/EWP(h)/EWP(l) IJP(c) JD

ACC NR: AP6012171

SOURCE CODE: UR/0413/66/000/007/0100/0100

AUTHORS: Yakhimovich, D. F.; Chechina, L. G.; Zhivitskiy, A. S.; Gryaznov, Ye. M.

ORG: none

TITLE: An instrument for cutting several objects from hard and brittle materials.  
Class 49, No. 180474

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 7, 1966, 100

TOPIC TAGS: ultrasound, ultrasonic machining, ultrasonic equipment

ABSTRACT: This Author Certificate presents an instrument for cutting several objects from hard and brittle materials. The instrument is made in the form of a concentrator with a separating plate attached to it. The plate carries a number of cutting blades (see Fig. 1). To preserve an identical amplitude of oscillations for all the blades, openings or slits are produced over the entire face of the blade group and over the whole transverse section of the concentrator. The depth of openings or of slits reaches to the translocation plane of nodes of the longitudinal oscillations. The external contours of the intermediate plate and

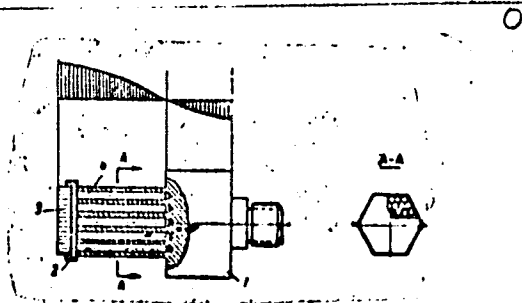
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UDC: 621.9.048.6.06

L 07352-67

ACC NR: AP6012171

Fig. 1. 1 - waveguide; 2 - plate;  
3 - assembly of cutting blades;  
4 - openings or slits



of the outflow stage of the concentrator correspond to the external contour of the cutting blades assembly. Orig. art. has: 1 figure.

SUB CODE: 13/ SUBM DATE: 31Jan64

Card 2/2 afe

L 23877-66 EWT(i)/EWT(m)/EPF(n)-2/T/ETC(m)-6 WW/DJ/WE

ACC NR: AP6009922

(A,N)

SOURCE CODE: UR/0413/66/000/004/0117/0117

AUTHOR: Bakharev, A. P.; Tumanova, A. S.; Lisitsyn, A. A.; Rodnikov, V. A.; Pozharov, M. A.; Rezvov, K. M.; Smirnov, M. P.; Latysh, V. S.; Kryuchkov, V. Ye.; Filippov, V. V.; Keller, U. U.; Kislov, V. G.; Gryaznov, Yu. A.; Koshman, E. I.; Mos'kin, V. A.; Polonskiy, S. N.; Fedoseyev, N. I.; Lavrov, L. I.

64  
B

ORG: none

TITLE: A sectional high-pressure fuel pump. Class 46, No. 179124

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 4, 1966, 117

TOPIC TAGS: engine fuel pump, internal combustion engine, high pressure pump

ABSTRACT: This Author's Certificate introduces: 1. A sectional high-pressure fuel pump for internal combustion engines. The pumping elements and camshaft are located in the pump housing. The unit also contains a general-purpose regulator with weights mounted on a hub which is fitted loosely onto the camshaft. These weights operate a clutch which is connected to the fuel pump rod by a lever mechanism. The hub with the weights is connected to the camshaft by a helical spring element for stable operation of the pump under given conditions. 2. A modification of this pump in which the lever mechanism is made up of two levers mounted on a common axis. One of these levers

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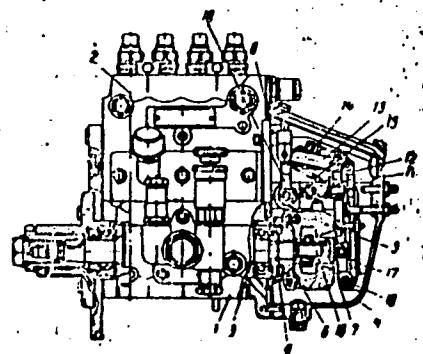
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L 23877-66

ACC NR. AP6009922

is connected to the pump rod drawbar and the other is connected to the regulator spring. The lever fastened to the drawbar is also coupled with another spring which



1--housing; 2--pumping element; 3--camshaft; 4--general-purpose regulator; 5--weights; 6--hub; 7--regulator clutch; 8--rod; 9--helical spring element; 10--common axis; 11 and 12--control levers; 13--drawbars; 14--regulator spring; 15--extra spring; 16--stem; 17--clutch cavity; 18--control lever

moves this lever to increase fuel feed during starting of the engine. 3. A modification of this fuel pump in which the regulator clutch is mounted on the stem of the camshaft and prevented from rotating by lugs on one of the levers which fit into grooves on the clutch. The clutch cavity bounded by the end of the shaft is filled with oil for damping. 4. A modification of this pump in which the additional spring coupled with the lever mechanism has its other end

connected to the motor control lever so that the spring is out of operation when the control lever is moved to the minimum idling speed position after the motor is started. 5. A modification of this pump in which the lever is connected to the pump rod

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L 23877-66

ACC NR: AP6009922

drawbar by an eccentric to change the cyclic feed of the pump during regulation without changing the speed conditions of the regulator.

SUB CODE: 13/      SUBM DATE: 13Apr62/      ORIG REF: 000/      OTH REF: 000

Card 3/3dda



L 9445-66 EWT(m)/EWP(k)/EWP(b)/T/ EWP(t)/EWP(w) JD

ACC NR: AP5026561

SOURCE CODE: UR/0286/65/000/019/0120/0120

INVENTOR: Gryaznov, Ye. M.; Podlazov, S. S.; Chechina, L. G.; Yakhimovich, D. F. 38

ORG: none

TITLE: Device for ultrasonic machining. Class 49, No. 175376

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 19, 1965, 120

TOPIC TAGS: machining, ultrasonic machining, ultrasonic tool

ABSTRACT: This Author Certificate introduces a tool for ultrasonic machining of holes in hard and brittle material parts. To reduce heating of the tool, its front and rear parts are made of wear-resistant material, such as steel, while the middle part is made of material with high heat conductivity, such as brass. Orig. art. has: 1 figure. [ND]

SUB CODE: 06, 09/ SUBM DATE: 17Jul62/ ATD PRESS: 4155

JW

Card 1/1

UDC: 621.9.048.6.022

L 38112-65 EWT(1)

ACCESSION NR: AP5006038

5/0141/64/007/006/1205/1207

AUTHOR: Gryaznov, Yu. M.; Chastov, A. A.

TITLE: Form of sequence of spin echo when pulses not satisfying the condition for rotation by  $180^\circ$  are used 11  
B

SOURCE: IVUZ, Radiofizika, v. 7, no. 6, 1964, 1205-1207

TOPIC TAGS: spin echo, magnetic moment, spin resonance

ABSTRACT: The article deals with observation of spin echo by the method of H. Y. Carr and E. M. Purcell (Phys. Rev. v. 94, 630, 1954), but using a sequence of pulses not satisfying the condition usually imposed, namely  $\gamma H_1 \Delta t = \pi$  ( $H_1$  -- intensity of the high-frequency field,  $\gamma$  -- gyromagnetic ratio,  $\Delta t$  -- duration of the pulse). It is assumed that the relaxation processes occurring during the passage of the pulse sequence can be neglected. The signal produced after the  $n$ -th pulse is calculated with the aid of a coordinate transformation in which the cumulative rotation of the magnetic moment is proportional to the number of pulses. This results in an expression that permits a more detailed investigation of the

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L 38112-65  
ACCESSION NR: AP5006038

0  
wave form of the spin-echo signal and which yields for the amplitude of the spin-echo signal a value that agrees with experiment. Orig. art. has: 9 formulas.

ASSOCIATION: None

SUBMITTED: 04 May 64

ENCL: 00

SUB CODE: NP

NR REF SOV: 000

OTHER: 002

*me*  
Card 2/2

L 43749-65 EEC(b)-2/SIF(c)/EWG(r)/EEG(k)-2/EWA(k)/EVA(k)/EWP(j), EWP(k)/EWA(c)/  
EWT(i)/EWT(m)/EEG(t)/FBD/EWP(i)/T/EWA(m)-2/EWP(s) : P-4/P1-4/P1-4/P1-4/P1-4/  
P1-4/P1-4/P1-4/P1-4/P1-4 IJP(c) WG/RM/WA S/0056/65/048/002/0772/0773  
ACCESSION NR: AP5006539

AUTHOR: Gavrilov, V. N.; Gryaznov, Yu. M.; Lebedev, O. I.; Chastov, A. A. 90

TITLE: Variations in ruby laser emission caused by placing phthalocyanine solu-  
tions in the resonator 7

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 48, no. 2, 1965,  
772-773

TOPIC TAGS: ruby laser, coherent optical propagation, phthalocyanine, quinoline  
derivative, organic dye 15

ABSTRACT: The effect of concentration of solutions for various phthalocyanines on  
the nature of ruby laser emission is investigated. Variations in laser emission  
were found in luminescent magnesium and zinc phthalocyanines and free phthalocya-  
nine, and also for copper and vanadium phthalocyanines which do not show lumines-  
cence. Instead of the usual irregular pulsations in output emission, in this case  
one or more powerful short pulses are produced. The number of pulses increases  
with an increase in the transmittance of the phthalocyanine solution. Distortion  
of the leading edge of the pulse may be due to the narrow passband of the recording

Card 1/2

I. 43749-65

ACCESSION NR: AP5006539

system. The comparatively low power of VLMW is explained by the fact that the parameters of the solutions used were not optimum. Orig. art. has: 2 figures.

ASSOCIATION: none

SUBMITTED: 12Dec64

ENCL: 00

SUB CODE: OF

NO REF SOV: 002

OTHER: 001

*RCB*  
Card 2/2

L 65226-65 EWA(k)/FBD/EWT(1)/EWP(e)/EWT(m)/EEC(k)-2/EWP(1)/T/EWP(k)/EWP(b)/

EWA(m)-2/EWA(h) LJP(c) WG/WH

ACCESSION NR: AP5014195

UR/0386/65/001/002/0014/0017

AUTHOR: Lebedev, O. I.<sup>44</sup>; Gavrilov, V. N.<sup>44</sup>; Gryaznov, Yu. M.<sup>44</sup>; Chaptov, A. A.<sup>44</sup>

TITLE: Obtaining giant pulses from a neodymium glass laser with help of bleach-  
able solutions 60 B

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki. Fis'ma v redaktsiyu.  
Prilozheniye, v. 1, no. 2, 1965, 14-17

TOPIC TAGS: laser, neodymium glass laser<sup>25, 44</sup>, liquid Q switch, photochemical shutter,  
giant pulse

ABSTRACT: Emission characteristics obtained from a Q-switched neodymium glass laser were described. The Q-switching was achieved with the help of a reversibly bleachable liquid which was a solution of a polymethine dye in quinoline. The experimental setup was described, which consisted of a neodymium activated glass rod and a cell with a dye solution placed in the optical cavity between the laser rod and one of the external dielectric mirrors. A few short and powerful pulses were generated by this system. Duration of each pulse and number of pulses were found to decrease to 100 nsec and one, respectively, when transmittance of the solution was gradually decreased to 36%. Orig. art. has: 2 figures. [JR]

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L 65226-65

ACCESSION NR: AP5014195

ASSOCIATION: none

SUBMITTED: 01Mar65

ENCL: 00

SUB CODE: EC

NO REF SOV: 001

OTHER: 005

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Card

2/2

L 27969-66 EWI(m)

ACC NR: AP6017679

SOURCE CODE: UR/0120/65/000/006/0072/0077

AUTHOR: Garapov, E. F.; Gryaznov, Yu. N.

ORG: none

TITLE: Analysis of the gamma-gamma correspondence method used for calibration of Co sup 60 and Na sup 22 sources

SOURCE: Pribory i tekhnika eksperimenta, no. 6, 1965, 72-77

TOPIC TAGS: cobalt, sodium, radioisotope, radioactivity measurement

ABSTRACT: Analysis is performed of the  $\gamma$ - $\gamma$  correspondence method used for measurement of the activity of radioactive Co<sup>60</sup> and Na<sup>22</sup> sources. Formulas are presented for checking the probability of recording gamma quanta of various energy levels, angular correlation, finite geometric dimensions, and calculations connected with the dead time of the apparatus used. The problem of determination of the minimal time necessary for obtaining the required accuracy is analysed. Orig. art. has: 3 figures and 26 formulas. [JPRS]

SUB CODE: 18 / SUBM DATE: 02Nov64 / ORIG REF: 004 / OTH REF: 005

Card 1/1 CC

UDC: 539.16.08





L 04643-67

ACC NR: AP6011570

single pulses of 1 Mw maximum power from a ruby laser. Another team of Soviet scientists, headed by A. L. Mikaelyan, obtained pulses of less than 20 nsec duration from a ruby laser employing a vanadium phthalocyanine solution in nitrobenzene as a passive Q-switching element. A third Soviet team, composed of L. S. Dovger, B. A. Yermakov, A. V. Lukin, and L. P. Shklover, in a study of bleaching of certain organic solutions in the cavity of a ruby laser, found the efficiency of vanadyl phthalocyanine in nitrobenzene and kryptocyanine in methanol was nearly equal in generating giant pulses; the efficiency of zirconium phthalocyanine solution in  $\alpha$ -bromonaphthalene was several times lower. To the present time, the best results were obtained in 1964 by a team of IBM scientists with a solution of aluminum phthalocyanine chloride in 1-chloronaphthalene.

Recently, the above-mentioned team of Soviet scientists headed by Yu. M. Gryaznov published the results of a systematic study of some 22 phthalocyanines and naphthalocyanines. These scientists attempted to expose the relationship between the energetic characteristics of giant pulses and spectral absorption properties of Q-switching solutions of the phthalocyanines studied. Only fifteen most chemically stable compounds were considered in the study with the apparent purpose of selecting the most efficient of them. Quinoline and o-dichlorobenzene were used as solvents. The total energy output of a

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ACC NR: AP6011570

series of giant pulses and the average energy output of a single pulse were generally increasing with a decrease in the difference between the wavelength of maximum absorption of the compound and the 6943 Å wavelength of laser emission. This conclusion was made from a comparison of the data presented in Fig. 1 and the wavelengths of maximum absorption of the compounds, which are, respectively: 1 - 6925; 2 - 6910; 3 - 6880; 4 - 6900; 5 - 7020; 6 - 6800; 7 - 7060 Å. A shift in the position of maximum absorption toward the 6943 Å emission line in the sequence: Cu < Al < Cr < Ga of the phthalocyanine series coincided with an increase in the emission output of the laser. The  $\lambda_{\text{max}}$  of absorption also shifted one way or another when o-dichlorobenzene was substituted for quinoline as the solvent.

The best results were obtained with gallium phthalocyanine chloride and zinc naphthalocyanine. Performance of the gallium phthalocyanine chloride solution in quinoline as the passive Q-switching element in a ruby laser was illustrated by the following data. Single pulses of 18 Mw power output and 40 nsec duration were obtained at 0.7 J energy of a pulse (20% of the energy output in the free mode generation of the laser) from an 800 mm long cavity containing a 120 mm long ruby rod between the mirrors with 50 and 99% reflection. Width of the emission spectral line was narrowed to less than  $3 \cdot 10^{-2}$  Å when a bleachable solution was used.

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ACC NR: AP6011570

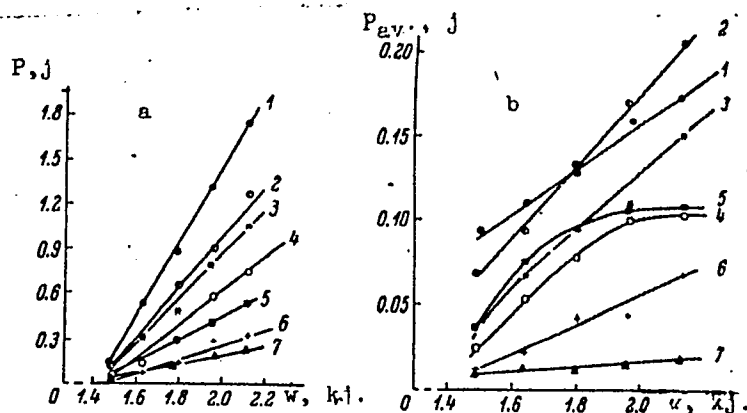


Fig. 1. Pump energy ( $w$ ) dependence of the total energy output ( $P$ ) of a series of giant pulses (a) and of the average energy ( $P_{av}$ ) of a single pulse (b) with certain bleachable compounds.

1 — gallium phthalocyanine chloride; 2 — zinc naphthalocyanine; 3 — chromium phthalocyanine chloride; 4 — copper naphthalocyanine; 5 — vanadyl phthalocyanine; 6 — copper phthalocyanine; 7 — kryptocyanine. Solvent: quinoline. Cell transparency: 60%.

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